

Withholding and Withdrawal of Life Support From Critically Ill Patients

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The withholding and withdrawal of life support are processes by which various medical interventions either are not given to or are taken away from patients with the expectation that they will die as a result. These processes are carried out in many medical settings, but are especially common in intensive care units (ICUs). Strictly speaking, all patients who die while receiving close medical attention in an ICU or elsewhere do so as a direct result of the withholding or withdrawal of life-sustaining therapy. This is either because a decision has been made not to resuscitate the patient in advance of decompensation or because vigorous resuscitation will not be provided indefinitely. It is this more deliberate form of withholding and withdrawal of life support from critically ill adults that I focus on in this article, in which I discuss the ethical, legal, and clinical aspects of limiting care and the question of how to resolve conflicts between patients and health care professionals regarding such limitations. My purpose in this article is to inform physicians and other practitioners about these issues and thereby assist them in better managing the deaths of patients who are unlikely to benefit from life-sustaining therapy.

Ethical Aspects of Withholding and Withdrawing Life Support

Physicians who care for critically ill adults and who are considering withholding or withdrawing life-support care can draw from several summaries of the ethical propriety of limiting care.¹⁻⁵ One of the most succinct group statements is the Consensus Report on the Ethics of Forgoing Life-sustaining Treatments in the Critically Ill, which was prepared by the Task Force on Ethics of the Society of Critical Care Medicine and published in 1990.⁶ In this report, it was noted that it is ethically appropriate to withhold or withdraw therapy either because a patient or surrogate decides to forgo treatment or because a physician judges that the major goals of therapy are unachievable. A decision to withdraw a treatment should not be more problematic than a deci-

sion not to initiate a treatment, particularly because starting therapy may be necessary to adequately evaluate a patient's condition. Any treatment derives its medical justification from the benefits that a patient and physician hope to achieve by employing it. When the treatment has achieved those benefits or can no longer be expected to do so, it loses its justification and may be withdrawn.

The task force's consensus statement also noted that there are no intrinsic moral differences between categories of treatment, such as cardiopulmonary resuscitation (CPR), ventilatory support, medications such as vasopressors and antibiotics, and the provision of hydration and nutrition by artificial means. Each treatment should be considered from a patient's perspective in light of the overall benefit that it may offer and the burdens it may entail, as well as the professional duties that are involved. Because treatment choices must be considered in relation to a patient's overall condition, a treatment offering a reasonable expectation of physiological benefits may be withheld from terminally ill patients. Treatments that serve only to prolong the dying process should not be used, and indefinitely maintaining patients in a persistent vegetative state raises ethical concerns both for the dignity of the patient and for the inappropriate use of health care resources.

A basic provision of the consensus statement was that the wishes of an informed adult patient with decision-making capacity should be the primary consideration in almost all decisions regarding treatment. When a patient (or surrogate in the case of a patient who is incapable of making decisions) and a physician (and other members of the health care team) agree that therapy should be limited, it usually should be. Treatments rejected by a patient or surrogate generally should not be imposed by a physician. When a patient or surrogate requests therapy that a physician considers futile, the physician should clarify the goals of treatment with the patient and may accede to the patient's wishes. The physician is not ethically oblig-

(Luce JM. Withholding and withdrawal of life support from critically ill patients. *West J Med* 1997; 167:411-416)

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ABBREVIATIONS USED IN TEXT

CPR = cardiopulmonary resuscitation

DNR = do-not-resuscitate [orders]

ICU = intensive care unit

ated to provide therapy, however, and may elect to transfer the patient's care.

The Society of Critical Care Medicine's consensus report did not discuss situations in which patients or their surrogates disagree with physicians but care cannot be transferred. Nor did it describe the role of ethics committees in resolving conflicts or the place of health care institutions in developing policies regarding the withholding or withdrawal of futile care. Furthermore, presumably because of when it was written, the report did not deal with the issue of how the physician-patient relationship has been affected by the growth of managed care, cost containment, and concern with limited medical resources. In this regard, some physicians think that their traditional duty to individual patients increasingly is being compromised by the desire of health care organizations to restrict access to certain services, including those of uncertain benefit. An alternative view is that physicians properly should broaden their advocacy of individual patients with a proportioned advocacy whereby more patients can receive treatment by limiting the provision of nonbeneficial care to a few.

Legal Aspects of Withholding and Withdrawing Life Support

Physicians clearly are influenced by real or perceived legal requirements in their attitudes regarding the withholding or withdrawing of life support. A few of these requirements have come in the form of statutes in areas such as brain death and organ transplantation, but most have been expressed through case law. As a result, it is important to understand how in recent years the courts have underscored the right of patients to refuse treatment, affirmed the concept that human life is more than a biologic process that must be continued in all circumstances, defined how therapies may or may not benefit patients, argued against a distinction between the withholding and withdrawing of life support, established guidelines for limiting life-sustaining treatment, and approached the resolution of disagreements among physicians and patients or their surrogates.

The first major judicial decision regarding the withholding and withdrawing of life support occurred in the case of Karen Ann Quinlan (1976), in which the father of a girl who was in a persistent vegetative state petitioned the court to be appointed guardian with the power to remove her from mechanical ventilation.⁷ The lower court denied the petition, but the New Jersey Supreme Court reversed the decision. In doing so, the court reasoned that patients generally would accept or refuse medical treatment on the basis of its ability to support sentient life over mere biologic existence. Having con-

cluded that Ms Quinlan, if she had been capable of making decisions herself, would have forgone therapy that could only prolong biologic life but not sentient life, the court decided that her right to privacy would be abrogated if it prevented the exercise of that right on her behalf. The court, therefore, granted the father's petition, allowing him to exercise "substituted judgment" for his daughter, and stated that life support could be withdrawn if her physicians and a hospital ethics committee agreed that such support did not alter Ms Quinlan's underlying condition.

The case of *Barber v Superior Court* (1983) involved two California physicians who performed surgical closure of an ileostomy on a Mr Herbert, who subsequently suffered cardiopulmonary arrest.⁸ Five days later, determining that his coma was irreversible and with the consent of his family, the physicians withdrew not only mechanical ventilation but also intravenous fluids and nutrition. Although the family found no fault with this at the time, the physicians were accused of murder by a district attorney. After the case was heard by several courts, the California Court of Appeals ruled that because the physicians had considered it medically futile to continue treatment because sentient life could not be restored, they had not failed to perform their duty. The court did not distinguish between removing mechanical ventilation or removing fluids or nutrition because all were interventions that could either benefit or burden. Finally, the court held that, without evidence of malevolence, family members are the proper surrogate for patients who cannot make decisions and that prior judicial approval is not necessary if surrogates and physicians decide to limit care.

The only case involving withholding and withdrawing of life support to be heard by the US Supreme Court was *Cruzan v Director, Missouri Department of Health* (1990).⁹ This case involved Nancy Cruzan, a young woman in a persistent vegetative state who required tube feeding rather than mechanical ventilation. Believing that she would not want to live in such a state, her parents asked to have tube feedings discontinued and were authorized to do so by a trial judge in Missouri. The Missouri Supreme Court reversed this decision, however, arguing that no one could exercise Ms Cruzan's right to refuse treatment on her behalf. The court also said that because the state had an interest in preserving life regardless of its quality, support could be terminated only if it could be shown by "clear and convincing evidence" that Ms Cruzan had rejected such treatment. The US Supreme Court, although acknowledging that patients had a constitutional right to refuse any form of life-sustaining treatment, also concluded that the constitution did not prohibit Missouri or other states from requiring evidence of a patient's wishes regarding life support. The Court did not require that other states follow Missouri's lead, however, and its decision does not affect the laws, ethical principles, or clinical practices elsewhere. In effect, the decision highlighted the desirability of all persons filling out advance directives,

including living wills and durable powers of attorney for health care, to facilitate medical decision making if and when they become critically ill.

The case of Helen Wanglie (1991) involved an 85-year-old woman who had a cardiopulmonary arrest during an attempt at weaning from mechanical ventilation at a long-term-care facility.¹⁰ She was returned to Hennepin County Medical Center (Minneapolis, Minnesota) in a persistent vegetative state. Mrs Wanglie's physician recommended to her husband and children that life-sustaining therapy be withdrawn, but the family insisted that therapy be continued because they valued biologic life. Eventually a new physician told the family that he did not wish to continue mechanical ventilation because it was not beneficial as it could not heal Mrs Wanglie's lungs or end her unconsciousness; because mechanical ventilation could prolong life, it was not described as being physiologically futile. After the family tried and failed to find another facility willing to care for the patient, the medical center asked the district court first to appoint a conservator other than Mr Wanglie to decide if ventilation was beneficial and, second, for a hearing to determine whether ventilation was required if the conservator held that it was not beneficial. The court refused to replace Mr Wanglie on the grounds that he could best represent his wife's interests. Because Mr Wanglie died before a hearing could be held, the issues of whether ventilation was beneficial and whether physicians could override family wishes were not resolved.

The most recent case to explore the issue of whether physicians can override family wishes involved a 72-year-old woman named Catherine Gilgunn who was being cared for at Massachusetts General Hospital (Boston).¹¹ Mrs Gilgunn was comatose with irreversible brain damage and had congestive heart failure and gastrointestinal bleeding. Although Mrs Gilgunn's husband and two of her daughters agreed to physician recommendations for a do-not-resuscitate (DNR) order, another daughter disagreed, and the DNR order was discontinued. At a subsequent meeting to discuss the DNR order, this daughter stormed out without confronting the issue. The other two daughters agreed to reinstate the DNR order, and Mrs Gilgunn was removed from the ventilator. The daughter who had refused the DNR order brought action against her mother's physicians and the hospital. Subsequently, the jury in Suffolk Superior Court absolved the physicians and hospital of liability, apparently because they believed that further care was futile despite the possibility that Mrs Gilgunn might have wanted to be kept alive. Thus, for the first time, a US jury has determined that life-sustaining therapy may be discontinued despite the objections of a patient or his or her surrogate.

Clinical Aspects of Withholding and Withdrawing Life Support

Information about the clinical aspects of withholding and withdrawing life support has come primarily from

surveys of physicians and other health professionals and from observational studies of the limiting of life-sustaining care. For example, several surveys¹²⁻¹⁴ have suggested that the great majority of critical care physicians have withheld or withdrawn life support at one time or another and that many have done so frequently. Similarly, retrospective studies have found that about half the patients who die in ICUs do so during the withholding or withdrawing of life-sustaining therapy.¹⁵⁻¹⁷ Prospective studies conducted in two ICUs in hospitals affiliated with the University of California, San Francisco, revealed that the withholding and withdrawal of life support preceded 90% of deaths in 1992 and 1993, compared with 51% of deaths in 1988 and 1989.^{18,19}

To determine whether limiting care is as commonplace as suggested by the aforementioned studies, a prospective survey was conducted in 1994 and 1995 of 167 ICUs associated with all US training programs in critical care medicine or pulmonary and critical care medicine.²⁰ Data from 6,110 deaths of 71,513 admissions (8.5% mortality) in the 107 sites responding to the survey revealed that 1,517 (25%) deaths followed full ICU care and failed CPR; 1,407 (23%) deaths occurred in patients who received full ICU care excluding attempted resuscitation; 768 patients (13%) had some form of life support withheld before death; 2,032 (33%) deaths followed the withdrawal of life support; and 386 (6%) patients were brain-dead and had therapy withdrawn, in some cases after their organs were transplanted. If patients who did not receive CPR, who had life support withheld or withdrawn, and who were brain-dead are considered as a group, 75% of the patients in this study had treatment limited in some manner. This suggests that withholding and withdrawing life support are now common practice in most American ICUs.

Despite the fact that life support was commonly withheld or withdrawn in this study, substantial variability was noted among ICUs with regard to mortality (from 2% to 45%), failed CPR (from 4% to 79% of deaths), and willingness to withdraw life support (from 6% to 71%). Clearly, considerable heterogeneity exists in the processes of withholding and withdrawing life-sustaining treatment within the United States. Presumably this heterogeneity also occurs on an international basis, although this issue has not been explored from a research standpoint. Because of the heterogeneity, there is no precise standard of care in the practice of withholding and withdrawing life support, even though the practice is more common than ever before.

Most surveys^{12-14,21} and studies^{15-19,21,22} have indicated that physicians recommend that life support be withheld or withdrawn either because patients or surrogates request this action or because physicians think that further care is futile. Physicians vary in their definitions of futility, but the term generally conveys the ideas that a patient cannot benefit from treatment, that the patient's acute disorder is not reversible, that the patient will not survive the current hospital stay, or that the quality of the

patient's life following discharge will be poor. These ideas clearly stem from prognostication on the physicians' part. They generally arrive at estimates of prognosis through their personal experience and knowledge of the medical literature, although prognostic scoring systems such as the Acute Physiology and Chronic Health Evaluation system are used in some ICUs. If present, persistent coma, other unacceptable neurologic prognoses, and multiple organ system failure are important rationales for withdrawing care. The need for ICU beds, patients' social worth, and financial cost-benefit analyses are not important rationales.

Most patients have not prepared medical directives in advance of suffering a critical illness, and most patients are too neurologically depressed by their disease or by therapeutic drugs to make medical decisions when they become critically ill. Surrogates were available and willing to take part in the decision-making process in the prospective studies of withholding and withdrawing life support.^{18,19} When surrogates were not available, physicians were willing to make decisions for the patients. Although consultation from other physicians often was sought before deciding to limit care, hospital ethics committees were infrequently involved.

The surrogates that were available in these studies either recommended by themselves that support be withheld or withdrawn when patients were not improving or accepted physicians' recommendations to that effect.^{18,19} These recommendations were not always accepted immediately, but in most cases, the surrogates agreed within a few days. Only rarely did surrogates insist on continued care against the advice of physicians, and in all cases, care was continued. In certain instances, however, the physicians stopped short of providing CPR in patients who were otherwise supported.

Although differences between physicians and surrogates do occur over the issue of limiting care, their incidence is uncertain. In a survey of self-identified members of the critical care section of the American Thoracic Society, 34% of respondents reported that they had refused surrogate requests to withdraw care either because they thought that the patient had a reasonable chance of recovery or that the surrogates might not be acting in the best interest of the patient.¹³ At the same time, 83% of physicians reported that they had unilaterally withheld life-sustaining treatment on the basis of futility, often without patient or surrogate knowledge or consent, and 82% had withdrawn treatment on the same basis.

Cardiopulmonary resuscitation probably is the therapy most often withheld from ICU patients, as suggested by the finding that DNR orders preceded 60% of all in-unit deaths between 1980 and 1990 in a large observational study²³ in 40 US hospitals compared with only 39% of all in-unit deaths from 1979 to 1982 in a similar study.²⁴ Antibiotics, vasoactive drugs, renal dialysis, and mechanical ventilation were commonly withheld in the two studies from ICUs in hospitals affiliated with the University of California, San Francisco.^{18,19} Mechanical

ventilation was the therapy most commonly withdrawn in these studies, followed by the use of vasoactive drugs. In the survey of American Thoracic Society members,¹³ 89% of the respondents had withdrawn mechanical ventilation, 88% had withdrawn vasoactive drugs, and 80% had stopped administering blood or blood products.

A survey of randomly selected US members of the Society of Critical Care Medicine in 1991 and 1992 revealed that 15% of respondents almost never withdrew mechanical ventilators from patients who were expected to die, 15% almost always did so, and the remainder withdrew ventilators some or most of the time.²⁵ Of physicians who withdrew ventilators, 33% preferred the gradual withdrawal of supplemental oxygen and positive end-expiratory pressure treatment before removing the ventilator, a process called terminal weaning²⁶; 13% preferred rapid extubation; and the remainder used both methods. Reasons for preferring terminal weaning included patient comfort (65%), family perceptions (63%), and the belief that terminal weaning was less active (49%). Reasons for preferring extubation included the directness of the action (72%), family perceptions (34%), and patient comfort (34%).

In this survey of Society of Critical Care Medicine members,²⁵ morphine sulfate and other opiate analgesics were used by 74% and diazepam and other benzodiazepines by 53% of physicians who withdrew ventilators; 6% used muscle relaxants at least occasionally. In a study conducted in 1988 and 1989 in the two ICUs at hospitals affiliated with the University of California, San Francisco,²⁷ analgesics and sedatives were given to 75% of non-brain-dead patients during the withholding and withdrawal of life support. Patients who did not receive medication were comatose and considered incapable of benefiting from the drugs. Physicians ordered analgesics and sedatives to decrease pain in 88% of patients, to decrease anxiety in 85%, to comfort families in 82%, to decrease air hunger in 76%, and to hasten death in 39%; in no instance was hastening death the only reason cited. The amounts of opiates and benzodiazepines averaged 3.3 mg per hour of morphine and 2.2 mg per hour of diazepam in the 24 hours before withholding and withdrawing life support and 11.2 mg per hour and 9.8 mg per hour, respectively, in the 24 hours thereafter. The median time until death following the initiation of withholding and withdrawing life support was 3.5 hours in the patients who received drugs and 1.3 hours in those patients who did not. Thus, the administration of sedatives and analgesics did not appear to hasten death in this study.

It would appear from these surveys and studies that the withholding and withdrawal of life support from adults occurs frequently in most ICUs in the United States and that these processes commonly follow a similar course. Furthermore, professional attitudes and behaviors on the part of physicians are consistent with ethical pronouncements and judicial decisions regarding the withholding and withdrawing of life support. The only major area in which consistency may be lacking

concerns physicians' refusal to follow surrogate demands either to limit care in certain circumstances or, more commonly, to provide care that the physicians consider futile. This finding is not surprising given the lack of legal clarification of the issue and the frequent conflicts over ethical principles such as patient autonomy and distributive justice in ICUs.^{27,28}

Resolving Conflicts Between Patients and Health Care Professionals

Although physicians' refusal to provide care has not been legally clarified, the medical profession cannot wait for case law to develop before defining its own values and describing methods for resolving conflicts between patients and their physicians. The Ethics Committee of the Society of Critical Care Medicine recently developed a Consensus Statement Regarding Futile and Other Possibly Inadvisable Treatments to assist in such a resolution.²⁹ Because of the wide variation in physician definitions of futility, the ethics committee decided to define as futile only those treatments that cannot accomplish their intended physiological goal. Treatments that are extremely unlikely to be beneficial, are extremely costly, or are of uncertain benefit they considered inappropriate and hence inadvisable.

Because futile treatments constitute a small fraction of medical care according to the definition of the aforementioned ethics committee, employing the concept of futile care in decision making will not help reduce the use of ICU resources. Nevertheless, society has a legitimate interest in allocating medical resources wisely by limiting inadvisable therapies. Communities should seek to do so by using a rationale that is explicit, equitable, and democratic. Policies to limit inadvisable treatment—which are called futility policies by other groups concerned with medical ethics—should have the following characteristics:

- Be disclosed in the public record,
- Reflect acceptable moral values,
- Not be based exclusively on prognostic scoring systems,
- Contain appellate mechanisms, and
- Be recognized by the courts.

Health care organizations that control payment or services or both should formally address criteria for determining when critical care treatments are inadvisable, and their policies regarding such treatments should contain the characteristics just described.

Although physicians do not have a responsibility to provide futile or inadvisable care,³⁰ they should not withhold or withdraw life support based solely on their research notions of futility, but instead should rely on institutional or multi-institutional policies.³¹ Such a policy has been developed by representatives of major hospitals in Houston, Texas.³² Under that policy, when a physician determines that an intervention is inadvisable

but a patient or surrogate insists that it be provided, the physician first must discuss the reason for his or her judgment, the possibility of transferring care without abandoning the patient, and alternative treatments such as palliative care. If agreement is not reached at this point, the physician must obtain a second opinion from another physician who has examined the patient and must present the case before an institutional review body. If the review body affirms that a treatment is inappropriate, the treatment is terminated, a plan for alternative care is established, and intrainstitutional transfer to another physician to provide the treatment that has been deemed inadvisable is not allowed. On the other hand, if the review body finds that the intervention is appropriate, orders to terminate the treatment are not recognized as valid without patient or surrogate assent.

The Houston Collaborative policy is limited in that it was developed by institutional representatives without explicit community involvement. The legal standing of the policy remains uncertain, and it is not clear whether the policy is workable in ICUs or that physicians will follow it rather than openly or surreptitiously limiting care on their own. Nevertheless, the policy represents a commendable approach in balancing patient autonomy and professional and institutional integrity, and its presence seems to have prompted dispute resolution before institutional review bodies are required. Ideally, policies such as this should move society closer to a consensus on which treatments are truly beneficial and how limited resources should be allocated.

REFERENCES

1. Council on Ethical and Judicial Affairs, American Medical Association. Decisions near the end of life. *JAMA* 1992; 67:2229–2233
2. Ruark JE, Raffin TA, Stanford University Medical Center Committee on Ethics. Initiating and withdrawing life support: principles and practice in adult medicine. *N Engl J Med* 1988; 318:25–30
3. Butler P, Carton RW, Elpern E, et al. Ethical and moral guidelines for the initiation, continuation, and withdrawal of intensive care. *Chest* 1990; 97:949–958
4. American Thoracic Society. Withholding and withdrawing life-sustaining therapy. *Am Rev Respir Dis* 1991; 144:726–731
5. Luce JM. Ethical principles in critical care. *JAMA* 1990; 263:696–700
6. Task Force on Ethics of the Society of Critical Care Medicine. Consensus report on the ethics of forgoing life-sustaining treatments in the critically ill. *Crit Care Med* 1990; 18:1435–1439
7. In re: Quinlan, 70 NJ 10 (1976)
8. Barber v Superior Court, 195 Cal Rptr, 147 Cal App 3d 1054 (1983)
9. Cruzan v Director, Missouri Department of Health, 497 US 261 (1990)
10. In re: Helen Wanglie, 4JD (Dist Ct Probates Ct Div) PX-91-280, Minn. Hennepin Co
11. Civetta JM. Futile care or caregiver frustration? A practical approach. *Crit Care Med* 1996; 24:346–351
12. Society of Critical Care Medicine Ethics Committee. Attitudes of critical care medicine professionals concerning forgoing life-sustaining treatments. *Crit Care Med* 1992; 20:320–326
13. Asch DA, Hansen-Flaschen J, Lanken PN. Decisions to limit or continue life-sustaining treatment by critical care physicians in the United States: conflicts between physicians' practices and patients' wishes. *Am J Respir Crit Care Med* 1995; 151:288–292
14. Faber-Langendoen K. The clinical management of dying patients receiving mechanical ventilation: a survey of physician practice. *Chest* 1994; 106:880–888
15. Koch KA, Rodeffer HD, Wears RL. Changing patterns of terminal care management in an intensive care unit. *Crit Care Med* 1994; 22:233–243
16. Vincent JL, Parquier JN, Preiser JC, Brimiouille S, Kahn RJ. Terminal events in the intensive care unit: review of 258 fatal cases in one year. *Crit Care Med* 1989; 17:530–533

17. Parker JM, Landry FJ, Phillips YY. Use of do-not-resuscitate orders in an intensive care setting. *Chest* 1993; 104:1592–1596
18. Smedira NG, Evans BH, Grais LS, et al. Withholding and withdrawal of life support from the critically ill. *N Engl J Med* 1990; 322:309–315
19. Prendergast TJ, Luce JM. Increasing incidence of withholding and withdrawal of life support from the critically ill. *Am J Respir Crit Care Med* 1997; 155:15–20
20. Prendergast TJ, Luce JM. A national survey of withdrawal of life support from critically ill patients (Abstr). *Am J Respir Crit Care Med* 1996; 153:A360
21. Lee DKP, Swinburne AJ, Fedullo AJ, Wahl GW. Withdrawing care: experience in a medical intensive care unit. *JAMA* 1994; 271:1358–1361
22. Cook DJ, Guyatt GH, Jaeschke R, et al. Determinants in Canadian health care workers of the decision to withdraw life support from the critically ill. *JAMA* 1995; 273:703–708
23. Zimmerman JE, Knaus WA, Sharpe SM, Anderson AS, Draper EA, Wagner DP. The use and implications of do-not-resuscitate orders in intensive care units. *JAMA* 1986; 255:351–356
24. Jayes RL, Zimmerman JE, Wagner DP, Draper EA, Knaus WA. Do-not-resuscitate orders in intensive care units. *JAMA* 1993; 270:2213–2217
25. Faber-Langendoen K, Bartels DM. Process of forgoing life-sustaining treatment in a university hospital: an empirical study. *Crit Care Med* 1992; 20:570–577
26. Grenvik A. 'Terminal weaning'; discontinuance of life-support therapy in the terminally ill patient. *Crit Care Med* 1983; 11:394–395
27. Wilson WC, Smedira NG, Fink C, McDowell JA, Luce JM. Ordering and administration of sedatives and analgesics during the withholding and withdrawal of life support from critically ill patients. *JAMA* 1992; 267:949–953
28. Luce JM. Conflicts over ethical principles in the intensive care unit. *Crit Care Med* 1992; 20:313–315
29. Ethics Committee of the Society of Critical Care Medicine. Consensus statement of the Society of Critical Care Medicine's Ethics Committee regarding futile and other possibly inadvisable treatments. *Crit Care Med* 1997; 25:887–891
30. Luce JM. Physicians do not have a responsibility to provide futile or unreasonable care if a patient or family insists. *Crit Care Med* 1995; 23:760–766
31. Luce JM. Making decisions about the forgoing of life-sustaining therapy. *Am J Respir Crit Care Med*. In press
32. Halevy A, Brody BA. A multi-institutional collaboration policy on medical futility. *JAMA* 1996; 276:571–574